

5-1-2016

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Recommended Citation

Alfattal, Eyad (2016) "International Students' College Achievement: A Critical Quantitative Perspective," *Wisdom in Education*: Vol. 6: Iss. 1, Article 1.

Available at: <http://scholarworks.lib.csusb.edu/wie/vol6/iss1/1>

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Abstract

Colleges exert much effort in recruiting international students who bring financial, cultural and educational benefits to the campuses in which they study. On the other hand, little attention is paid to how these students succeed in achieving their educational goals. The study proposed here describes a planned investigation that will help find out more about international students' success in American colleges. The study will employ a college student achievement model as its theoretical framework, and it will aim at examining relationships between international students' GPA and graduation rates while controlling for precollege academic performance. This examination will be done while comparing international to domestic student samples. The data set to be used, National Postsecondary Student Aid Survey, is identified. In addition, critical quantitative methods as the methodology to be adopted is described, and two options of regression tests for data analysis are advanced.

Keywords

International Students, Internationalization, Student Success, Student Involvement, Student Achievement

Author Statement

I am an international education researcher and practitioner at California State University San Bernardino. My areas of interest include globalization and internationalization of higher education, student involvement, and college choice.

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Eyad Alfattal

Introduction

In the 2013/2014 academic year, there were over 886,000 international students studying at higher education institutions in the United States of America (Institute of International Education, 2015). American colleges are continuously increasing their recruitment activities and developing new programs that would grow the number of international students on their campuses (Altbach, Reisberg, & Rumbly, 2009; Ma, 2014; Ruby 2009). Similarly, American education and foreign policy has also been engaged in developing international agreements and initiatives that would increase international student mobility into the United States (McGill & Helms, 2013). An important element of international students in higher education is the enriching value they inject into the American society and the American human capital (Altbach & Knight, 2007; Altbach, Reisberg, & Rumbly, 2009). In fact, President Barack Obama argues that more effort should be invested in attracting and retaining international students. "Are we a nation that educates the world's best and brightest in our universities, only to send them home to create businesses in countries that compete against us?" Obama asks during his

presentation on his executive actions with plans to reform the American immigration system (Redden & Stratford, 2014, November 21, para. 6).

While international study is potentially empowering immigrants (Chen, 2007), many of the students are not well integrated into American academic environments as they face challenges including isolation, alienation, and marginalization (Guoa & Chase, 2011; Yuan, 2011). We seem to know very little about how international students adapt to the American education system, how much support colleges provide, how involved these students are in their college experience, and how successful they are in comparison to their potential and in comparison to their American counterparts. In this paper, I propose a study that could bridge some of the knowledge gap on international students' achievement in American colleges. The proposed study will investigate international students' achievement represented by these students' cumulative GPA and graduation rates in comparison to their academic potential and in comparison to their American counterparts; comparisons between

the two groups of students will take into consideration students' pre-college achievement in high school. In the following sections, I start with a brief description and discussion of Tinto's (1975) college involvement/achievement model used as the theoretical framework for the study proposed here. Then, a brief review of relevant literature is presented. Finally, I advance research methods that are suitable for the study.

Throughout this proposal, I define "international students" as students who come to the U.S. on a non-immigrant F or J Visa. "American students" and "domestic students" are used interchangeably and are defined as all other students studying at American colleges regardless of their citizenship or residency status. Finally, the terms "college" and "American institutions of higher education (AIHE)" are also used interchangeably and refer to public, private non-for-profit and for-profit 2-year colleges, 4-year universities, and research universities.

Theoretical Framework

A commonly employed theoretical framework is the conceptual model of college student involvement/achievement originally proposed by Tinto (1975). This model is further developed by Astin (1984) and is used in a number of strands of research, including those of underrepresented, marginalized, and first-generation college students, for

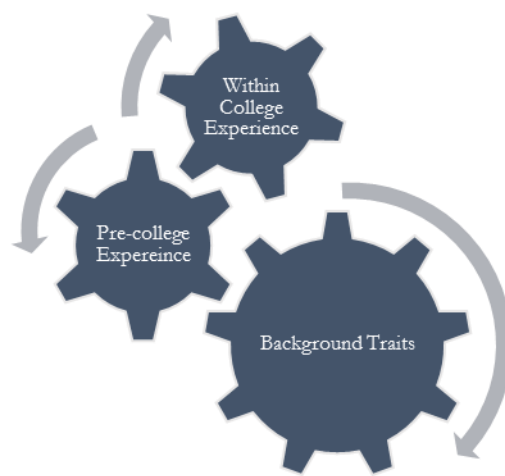
instance Terenzini, Springer, Yaeger, Pascarella, and Nora (1996). The college involvement/achievement model consists of four main dimensions: (a) pre-college traits, (b) in-class and out-of-class experiences, (c) college context, and (d) learning outcomes (Tinto, 1975; Astin, 1984; Terenzini, Springer, Yaeger, Pascarella & Nora, 1996). Pre-college traits are students' previous academic achievements including admission test scores prior to their college experience. In-class and out-of-class experiences are the courses and activities in which students engage during their college years. College context refers to the type of campus (private, public, two-year, four-year, or research campuses) where students study and includes the location and the degree of selectivity, admission and graduation requirements of those campuses (Astin, 1984). Finally, the learning outcomes dimension of the college involvement/achievement model, as Strayhorn (2006a) advances, concerns students' grades in courses in which they enroll, and students' graduation rates in addition to the critical, communication, and interpersonal skills students acquire as a result of their college education.

The four dimensions of college involvement/achievement have been reconstructed more recently into a three-dimensional model by Strayhorn (2006b), background traits, pre-college experiences, and within-college experiences. Background traits affects pre-college experiences; then, these two dimensions interact and shape the

within-college experiences and eventually students' college achievement. The interactions of the

dimensions of this model are illustrated in Figure 1 below.

Figure 1: Strayhorn's (2006b) College Involvement/Achievement Model



Strayhorn (2006b) argues that his newer college involvement/achievement model incorporates improvements from previous models as it focuses on three broad dimensions allowing researchers to study change over time, before, during, and after college education experience. In other words, using this newer model allows researchers to look into related aspects of learning experiences that happen within the different stages of the educational process as the subcomponents of college context and learning outcomes dimensions are incorporated with pre-college experiences and within-college experiences.

Literature Review

There is a plethora of research done into domestic students' college achievement, such as studies by Allen (1999), Aspinwall and Taylor (1992), Baker (2004), Bong (2001), De Witz, Woolsey and Walsh (2009), Friedman and Mandel (2010), and Walters (2004). However, a review of the literature was able to find only a limited number of studies, namely Guoa and Chase (2011), Ma (2014), and Vu, L. and Vu, P. (2013), which empirically investigated international students' college involvement and/or achievement at a foreign campus. Not only was the number of studies in this area small, but also the scope of these

studies was limited to the impact of international students' English language proficiency on their academic performance.

Guoa and Chase (2011) note the scarcity of research done on international students' college involvement. The authors adopt a case study research design to investigate how international students are integrated into a Canadian academic environment. Document analysis and questionnaire techniques were employed. Document analysis involved website contents, funding applications, program brochures, and course syllabi. Questionnaire techniques involved a 2-stage data collection instrument that collected background and demographic information on participants in its first stage in 2002, and feedback on the learning experience through open-ended and close-ended items in 2004. In total, 152 usable questionnaires were collected and analyzed using thematic analysis for the open-ended items and descriptive statistics for the close-ended ones. Guoa and Chase's (2011) study found that, "Although there is an interest in bringing in international students to internationalise Canadian campuses, in reality there has been a lack of support to help international students successfully integrate into Canadian academic environments" (p. 316). Guoa and Chase's qualitative findings suggested that there was a complex relationship between social interaction, personal development, and academic outcomes on the one

hand and English language mastery on the other.

A study on whether international graduate students' English language proficiency is an indicator of these students' academic achievement in American higher education is reported in Vu, L. and Vu, P. (2013). The authors investigated if there was a correlation between students' Test of English as Foreign Language (TOEFL) scores and students' GPA. Quantitative data was collected by a questionnaire that surveyed 464 international students studying at one public American university in the Midwest. A Pearson test showed that there was no significant relationship between TOEFL scores and academic performance measured by GPA ($r = -.272$ and $p = .07$). The authors suggest that there can be two different explanations for the failure to find significant correlation between the variables. The first is that the TOEFL test may not be a reliable tool that can assess and report international students' English language academic skills. The second possible explanation is relevant to compensation techniques that students may employ; international students who had lower English language proficiency skills may have exerted more effort in their courses (Vu, L. & Vu, P., 2013).

The study reported in Ma (2014) was, "... one of the first studies to empirically examine the academic experiences and achievement of Chinese international undergraduates on American campuses" (p. iv). The author investigated first-year

achievement of Chinese international undergraduate students at an American four-year public university using a convergent parallel mixed methods design. Qualitative and quantitative data were collected simultaneously through existing databases, surveys by a questionnaire, and semi-structured interviews. Interviews were conducted with 26 subjects and the data was used to help interpret quantitative findings. Quantitative data, on the other hand, were used to produce descriptive statistics as well as inferential ones. The sample size in this study was 175 subjects, which made about 65% of the total population of first-year Chinese students in the context where the study was conducted. The investigation was primarily concerned with testing the relationship between academic achievement and possible factors that may affect student performance. Hence, an ordinary least squares regression model was employed to predict Chinese students' cumulative first-year college GPA, and a logistic regression model was used to predict students' first-to-second-year persistence. Findings revealed that although students studied by Ma did not have enough pre-college preparation, they could attain academic achievement similar to that of their American counterparts. The major challenges and areas of difficulty within the American college experience for the Chinese students in the study were relevant to English language mastery and the difference in the culture of learning and teaching

between China and America. These were (a) engaging in collaborative learning, (b) interacting with American faculty and peers, (c) maintaining academic integrity, (c) increased amount of personal freedom, and (d) ownership of learning. Furthermore, Ma found that English language proficiency was significantly associated with students' first year cumulative GPA. R^2 explained 25% of the variance indicating that the regression model is a good fit for the data. In addition, English language proficiency significantly correlated with students' first-to-second-year retention and progress (Ma, 2014).

Research Question

Based on the literature reviewed above, we seem to have gaps in our knowledge of international students' involvement and achievement at American colleges; Guoa and Chase (2011) researched the Canadian context, Ma (2014) studied graduate international students, and Vu, L. and Vu, P. (2013) researched first year undergraduate Chinese students. Moreover, these studies were centered on the interaction of English language mastery with college achievement. We do not know how well international students' perform at American colleges in comparison to their pre-college experience and in comparison to their American counterparts by the end of their study. Furthermore, we do not know how international student subgroups perform in comparison to each other, Middle

Eastern in comparison to Asian students, for instance. Thus, the proposed study is underpinned by one main broad research question (RQ) as follows:

Broad RQ: How well do international students perform at American colleges?

This main question is divided into more specific questions as follows.

In terms of academic achievement at American colleges:

RQ1: How do international students perform in comparison to their American counterparts?

RQ2: How do international students subgroups perform in comparison to each other?

RQ3: How do international students perform in comparison to their potential?

Academic achievement will be operationalized by cumulative GPA and graduation rates. Consequently, the above research questions can be further subdivided into six, three questions comparing GPA and three other questions comparing graduation rates. In order to compare subgroups of international students, dummy categories will be created: African, Asian, European, Middle Eastern, South American, and Australian/Canadian. Finally, students' potential will be operationalized by high school GPA.

It is hoped that by answering the above questions, the proposed study will help American education policy makers and campus administrators further understand international students' involvement and

achievement at American colleges in comparison to the domestic population. This understanding is expected to help shed more light onto the level of services American higher education is providing for international students.

Research Methods

To answer the research questions, the future study will employ critical quantitative research methods. This section starts with advancing the rationale for pursuing a critical approach. Then, the secondary data set that will be used will be described, together with a brief summary on the population on which it reports. Finally, the quantitative data analysis procedures and their rationales will be outlined. This paper concludes with a discussion of the study delimitations.

Taking a Critical Quantitative Approach to Study International Students

The research approach, critical quantitative scientific inquiry, in this proposed study was inspired mainly by discussions in two previous papers. The first is that of Conway (2014), who, as noted by Stage and Wells (2014), expands the perspective of critical quantitative research (CQR) to include immigrant students. Previous CQR work has been focused on revealing inequity, oppression and underrepresented and marginalized populations in education research. Such populations typically included

low-income, African Americans, Latina/o, Native Americans, and undocumented students. Conway (2014), however, added immigrants and children of immigrants as new categories to CQR paradigm and CQR discussions. This has inspired me to propose that CQR can be comprehensive enough to embrace additional, marginalized, and possibly oppressed, segments of a population in educational settings. The segment that I advance here is international students at American institutions of higher education. Thus, in this paper, CQR assumes a global or a human perspective to phenomena and attempts to reveal systematic inequity and question measures and analytical practices in educational contexts that do not take account of students' citizenship and residency status in the United States of America.

The second publication that inspired the research methodology of the study proposed here is Teranishi, Ceja, Antonio, Allen and McDonough (2004) on college access and achievement of Asian-Pacific Americans. In their research, the authors found that grouping students in broad categories, Asian-Pacific in their study and probably Latina/o or African in other situations, is not fair, since conclusions are not necessarily applicable to all subgroups within those categories. In other words, the authors demonstrate that there cannot be one diagnosis or one prescription that can be relevant to, or solve, education issues of social groups that are clustered in too broad categories.

The relevance of Teranishi, Ceja, Antonio, Allen and McDonough's arguments to the study proposed here concerns the manner in which international students' involvement and achievement in American higher education is reported on by campuses and in publicly available data provided by the National Center for Education Statistics. They are aggregated into a single category and referred to all together as non-resident aliens. Hence, my future study will investigate possible differences between international students' subgroups. Demographic data including gender, age, country of origin, major, and college type will be analyzed in relationship to student college achievement.

Data Set and Sample

In order to investigate factors influencing the academic achievement of international students at American colleges, I will use a secondary data set from the Baccalaureate and Beyond Longitudinal Study collected by the National Center for Education Statistics through the National Postsecondary Student Aid Survey (NPSAS). This data set contains information on a total sample size of 11,192 subjects. Demographics of the sample are reported and include gender, age, ethnicity, international/domestic student status, and country of origin. The data set also provides information on pre-college experiences; these are high school GPA, ACT scores and SAT

scores. Furthermore, NAPSAS reports the type of college students attend, time to degree and cumulative and norm GPA data. Previous research using this data set reported on students' achievement regardless of residence status (domestic/international).

Quantitative Data Analysis

Descriptive and inferential statistics will be employed with the purpose of analyzing data and answering the research questions of the proposed study. The primary objective will be to find out about the relationships between high school GPA, international/domestic status and college achievement. The NPSAS data set reports on students at two stages of their learning experience, pre-college and within-college experience. Thus, hierarchical regression techniques can be a suitable method for the analysis. The variables can be entered in two sequential blocks following the natural order of pre-/within-college achievement (Vogt, 1999). This sequence will also be in line with the components of the theoretical model advanced by Strayhorn (2006b) and adopted in this proposal.

Alternatively, data can be analyzed in a more straightforward manner and with similar expected results using two sets of multiple regression tests. Multiple regression is a suitable method for analyzing one continuous or interval ratio dependent variable in relationship to two or more

independent or predictive variables; predictive variables in multiple regression can be continuous or dichotomous variables (Field, 2013). Hence, the independent variables will be demographic characteristics and high school GPA. Analysis will not include ACT and SAT scores since many international students will have a missing value in this variable as they are not consistently subjected to these tests before they are admitted to colleges in America. The first set of regression tests will use cumulative college GPA as the dependent variable while the second set will use college graduation rates.

Delimitations of the study

The main limitation of the proposed study is related to the fact that it defines college involvement and achievement by GPA and graduation rates. A more comprehensive study may be able to look at other variables such as the critical and communication skills students gain as well as the social skills and networking developed as a result of interactions with faculty and other students at college. Such variables do not exist in the data set selected for this study. Another future study may use survey methods to fill some of this gap.

Conclusion and Next Steps

To conclude, in this proposal, I described a future research study on which I hope to embark. I illustrated that within the internationalization

strand of research, I will investigate international student's achievement at American colleges. I started the discussion by highlighting the importance of international students achieving American national and institutional objectives. I also reviewed literature and models used in current studies on student involvement and achievement. While the review of literature revealed a considerable number of studies into American domestic students, there were only few studies that looked at the phenomena as pertains to international students. I noted that the available studies on international students' achievement were limited to the interaction of English language proficiency with college success. Furthermore, there has not been a study yet that compares subgroups of international students' achievement to their domestic counterparts. In the final section of my proposal above, I discussed my research questions and methods. The questions will examine how international and domestic students' pre-college traits and pre-college experiences interact with their college achievement represented by

graduation rates and cumulative GPA. I explained that to answer the proposed study questions, I will adopt a critical quantitative approach to scientific inquiry. This approach will help reveal possible inequities and marginalization as well as questions the models and assumptions made in current literature. Finally, I discussed the secondary data set and the data analysis techniques that I will employ. I suggested that the nature of the data allows for at least two possible analytical procedures, namely hierarchical regression and multiple regression.

The study will entertain some originality and will help provide further understanding into the internationalization of American higher education. The originality stems from the fact that the study will be the first empirical work within the critical quantitative research paradigm to scrutinize issues related to international students. In addition, the study will be the first to compare subgroups of international students' academic achievement with the general population at colleges in the United States.

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